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PROVISIONAL SPECIFICATION.

An Improved Method of Preserving Animal and Vegetable Substances for the Food of Man.

I, RICHARD JONES, of Acton Hall, Berkeley, in the County of Gloucester, gentleman, do hereby declare the nature of this invention to be as follows:—

According to this invention the animal or vegetable substance to be preserved is first subjected to the action of heat and, for this purpose, it is enclosed in a vessel or envelope and is therein heated to the requisite degree either by placing the vessel or envelope in a furnace or by immersion thereof in hot water or by other means. The effect of this is to destroy any germ or germs of decomposition, contained within the substance, which takes place in a period of time varying with the nature of the substance and the degree of temperature to which it is subjected. Destructive or deleterious germs contained in the air in the vessel are also destroyed.

At a convenient part of the vessel or envelope containing the substance is an orifice plugged or packed with cotton wool or other suitable filtering medium. Through this orifice the air in the vessel or envelope is permitted to pass out as it expands under the influence of heat, and any destructive germs contained in the air are arrested and collected in the cotton wool or other filtering medium.

After having been heated to the necessary degree the vessel is withdrawn from the influence of the heating agent and fresh air allowed to pass into the vessel or envelope its destructive germs being arrested and retained in the filtering medium. The vessel may then be sealed.

The substance under treatment being, as aforesaid, protected from decomposition from within and shielded from attack from without, is thus permanently preserved for use as required.

[Price 6d.]

Jones' Method of Preserving Animal and Vegetable Substances for the Food of Man.

The first part of the process, namely, destroying any germ or germs contained within the substance under treatment, may be effected without enclosing the substance in a vessel or envelope and when the germ or germs therein is or are destroyed the substance is enclosed and subjected to the action of heat for the destruction of any germ or germs contained in the air within the vessel or envelope 5 as described.

Dated this 25th day of April 1887.

W. LLOYD WISE,
46, Lincoln's Inn Fields, London, W.C.,
Agent for the Applicant.

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COMPLETE SPECIFICATION.

An Improved Method of Preserving Animal and Vegetable
Substances for the Food of Man.

I, RICHARD JONES of Acton Hall, Berkeley, in the county of Gloucester, gentleman, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement :— 15

This invention consists in an improved method of preserving animal and vegetable substances for human food. It is applicable also to the preservation of liquids.

According to this invention the substance or liquid to be preserved is first exposed to the action of a temperature sufficiently high to destroy or render inert the germs of decomposition or other decomposing influences contained by or existing in the said substance or liquid. 20

After exposure, as above, for a length of time sufficient for the purpose specified, the substance or liquid is deposited in a suitable vessel, case or envelope which is then sealed and is, with the exception of an orifice or channel which is plugged with cotton wool or other suitable air-filtering medium, airtight. 25

The arrangement described in the first part of the provisional specification left with my application for Letters Patent for this invention has been found in practice to possess disadvantages and to offer difficulties, and instead, therefore, when dealing with solid substances, of first enclosing such substances in a vessel or envelope and then heating to the necessary degree, as set forth in the said part of my said provisional specification, I prefer to adopt the alternative mode set forth in the last part of my said provisional specification in which the substance under treatment is not, in the first instance, enclosed in a vessel. 30 35

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In applying this invention to the preservation of animal substances such as beef, mutton or other flesh, fowl or the like, the substance is first cooked by boiling, baking or otherwise and, in this manner, the deleterious germs or influences which would otherwise tend to cause decomposition are counteracted.

- 5 The degree of heat to which the substance is, for this purpose to be exposed, is such as to cause a temperature in the middle of the substance of, approximately, 212° Fahrenheit. After having been thus prepared, the substance is placed in a suitable vessel, case or receptacle which is then subjected, for a period of from ten to twenty minutes, to the action of air heated to, approximately, 212° Fahrenheit.
- 10 This may be conveniently effected in a chamber heated to the requisite extent by a stove, hot-water apparatus or other means. The walls of this chamber are pierced at intervals to enable an operator stationed outside the chamber to handle substances and vessels placed inside. Windows are provided to enable the operator to see what he is doing. By the heat to which the vessel containing the substance under treatment is subjected, deleterious or noxious germs contained within the vessel are
- 15 destroyed or rendered inert.

Gravy, previously exposed to heat to destroy decomposing germs, may be added to the animal substance before or during exposure of the latter to heated air.

- At a convenient part of the receptacle is, as aforesaid, an orifice or channel which
- 20 is packed or plugged with cotton wool. Through this orifice the air in the vessel is permitted to pass out as it expands under the influence of the heat, and injurious germs are arrested and retained by the wool and rendered inert by the heat.

- The receptacle is now withdrawn from the heated chamber or from the influence of the heating agent, and fresh air is permitted to enter it through the cotton wool or
- 25 other filtering medium which intercepts and prevents from entering the receptacles all deleterious germs or influences existent in the air passing into the receptacle.

The receptacle may then be sealed, if desired, and if sealed while in a heated chamber such as hereinbefore described, the use of cotton wool or other filtering medium may be dispensed with.

- 30 The substance under treatment being, as aforesaid, protected from decomposition from within and shielded from attack from without is thus permanently preserved and remains available as food as long as may be required.

- In the application of this invention to the preservation of liquids, the method adopted is substantially similar to that hereinbefore described with reference to
- 35 preserving animal substances.

- A convenient way of raising liquids to the temperature necessary to render inert the deleterious germs contained therein is to immerse the vessel containing the liquid in a second vessel containing water and then to apply heat which by gradually heating the water in the outer vessel raises the temperature of the liquid in the inner
- 40 vessel accordingly. Or the heat may be applied directly to the vessel, without the use of a second vessel and water, as in an ordinary saucepan. It is then put into bottles or cases in the chamber heated to 212° Fahrenheit or, if a gravy, may be added to the preserved meat, and, if a syrup, to preserved fruit.

- In the treatment of fruit and vegetable substances, the degree of heat to which they are, in the first instance, subjected should not exceed 150° Fahrenheit. For
- 45 this purpose they may be either immersed in water heated to, approximately 160°, or they may be otherwise heated.

- They are subsequently allowed to cool and are thereafter exposed, for from five to fifteen minutes, to air heated to, approximately, 212° Fahrenheit and when, by a
- 50 thermometer, a temperature of 150° is indicated in the middle of the largest of such substances, they are placed in their final receptacle. This part of the process may be carried out in the heated chamber aforesaid.

Having now particularly described and ascertained the nature of this invention, and in what manner the same is to be performed, I declare that what I claim is:—

- 55 1. The preservation of animal and vegetable substances and of liquids by first subjecting the same directly or indirectly to a degree of heat sufficient to destroy or

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render inert the germs of decomposition or other decomposing influences existent therein, and, subsequently, placing them in receptacles and, by subjecting the receptacles and contents, in a specially heated chamber or otherwise, to the requisite degree of heat, destroying or rendering inert the deleterious germs within such receptacles, substantially as hereinbefore described. 5

2. The use, in preserving animal and vegetable substances and liquids, of a chamber heated, by a stove, hot water apparatus or other means, in which chamber the substances and liquids are exposed to a degree of heat sufficient to destroy deleterious germs or decomposing influences as specified.

3. The use, for containing animal and vegetable substances and liquids, previously 10 exposed to the action of heat for destroying germs of decomposition existent therein, of vessels jars and other receptacles provided with an orifice or channel plugged or packed with cotton wool or other air-filtering medium, which vessels are otherwise air-tight, substantially as and for the purpose hereinbefore set forth.

Dated this 24th day of January 1888. 15

NICHOLAS WATTS,
Applicant's Agent.

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